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THE WORLD'S COAL SITUATION DURING THE WAR. I

I. GENERAL SURVEY OF THE PROBLEM

The coal industry is the one basic industry most closely connected with the present war. To both the Allies and the Central Powers their respective available coal resources constitute a *sine qua non* for carrying on the war, while in the period of reconstruction after the war coal will unquestionably become one of the most vital factors in determining industrial expansion and the growth of international trade.

Possibly no other single important industry has been affected so vitally in all its different stages by the war as the coal industry. It reflects in a plastic manner some of the most fundamental economic changes to which the war has given birth. The fact that in all the leading countries of the world more or less similar problems have developed during the past three and one-half years of the present world-war attaches an added interest to a comparative survey of the international coal situation at the present time.

Stimulation of coal production has been the factor of prime importance in the world's coal situation ever since the present great conflict of nations began. Everything else—prices, wages, transportation, legislation, etc.—has become primarily a means toward the all-important end of producing as much coal as possible. While complete production figures are not available for all coal-producing countries, Table I shows the production of coal in the leading coal-producing countries of the world during the five years from 1913 to 1917.

From the following table it will be seen that the coal production of most of the large coal-producing countries has decreased considerably since 1913. Great Britain, Germany, France, Russia, Austria, and Belgium show greatly reduced annual outputs. In the United States, Japan, China, Spain, and Holland the pre-war level was either maintained or increased. Canada shows a slight decrease. As will be explained more in detail later on, under each country separately, the main causes for the decline in coal production were lack of labor and inability to move coal from the mines

owing to car shortage. Strikes, inefficient labor, scarcity of machinery and pit timber were other contributing causes. The decrease in French, Belgian, and Russian coal production was caused by the German military invasion of large parts of the coal fields in those countries.

TABLE I

COAL PRODUCTION IN THE LEADING COAL-PRODUCING COUNTRIES OF THE WORLD

	1913	1914	1915	1916	1917
United States	570,048,125	513,525,477	531,619,487	585,372,568	621,409,629
Great Britain	287,698,617	265,664,393	253,206,081	256,348,351	248,473,119
Germany	278,627,497	245,482,135	235,082,000	.....	.....
Austria-Hungary . . .	59,647,957	.....	.....	30,896,388	28,558,719
France	40,843,618	29,786,505	19,908,000	21,477,000	28,960,000
Russia	35,500,674	.....	27,820,632	13,622,400	13,266,760
Belgium	22,847,000	.....	15,930,000	.....	.....
Japan	21,315,962	21,293,419	20,490,747	22,901,580	.....
India	18,163,856	.....	17,103,932	17,254,309	.....
China	15,432,200	.....	18,000,000	.....	.....
Canada	15,012,178	13,637,529	13,267,023	14,483,395	14,015,588
Spain	4,731,647	4,424,439	4,686,753	5,588,594	.....
Holland	2,064,608	.....	2,333,000	2,656,000	.....

In 1913 the total world-production of coal amounted to approximately 1,478,000,000 short tons.¹ Of this the United States, the largest coal-producing country of the world, alone produced about 38 per cent, Great Britain 22 per cent, and Germany 20 per cent. The fact that during the present war the production of coal in the United States has increased, while Great Britain's and Germany's production decreased, indicates that from 1914 to 1917 the lead of the United States as the greatest coal-producing country of the world has greatly increased.

TRANSPORTATION

Transportation has become, next to production, the most important problem in connection with the international coal situation. In fact difficulties of rail and water transportation have multiplied so rapidly during the course of the war that the whole question of supplying the world's needs of coal at present depends largely upon adequate shipping facilities.

The paramount importance of this phase of the transportation problem has been officially recognized in several special govern-

¹ "The Production of Coal in 1914," *U.S. Geol. Survey*, 1915, p. 63.

ment reports on this subject here and abroad. The Federal Trade Commission reported to Congress "that the coal industry is paralyzing the industries of the country, and that the coal industry itself is paralyzed by the failure of transportation."¹ The coal situation in Canada was described in a report submitted to the Minister of Labour² as follows: "Transportation had most to do with the conditions in so far as Quebec and Ontario were concerned. The partial failure of the railroads to meet the situation was probably the main cause of the [coal] shortage, as with transportation available coal could have been had." In Great Britain the first difficulty which arose in connection with the coal situation after the outbreak of war was one of distribution, due to the congestion of railways.³ An official communication recently issued by the German government states that the inability to meet the demand for coal is solely due to lack of transportation facilities. Limitation of passenger traffic is suggested as a means of meeting the difficulty. Enormous stocks of coal at the mines, it is claimed, cannot be moved due to rolling stock shortage.⁴ In the Scandinavian countries, France, Italy, and South America, all of which depend at present for a large part of their coal supply on oversea shipments, the scarcity of coal-carrying vessels and exorbitant freight rates have become a matter of grave concern.

As one means of relieving railroad traffic congestion zoning schemes have been put in operation in Great Britain, the United States, and France. These countries were divided into areas or zones, the interchange of coal between producing areas was restricted, and consuming districts were allotted specific sources of supply. As a further means for economizing railway transport, inland canals have been utilized for coal shipments in this country and in Europe to a greater extent than ever before. For many years practical coal men have advocated the buying and storing of coal by household consumers during the summer months so as to avoid coal traffic congestion occasioned by rush orders during the

¹ *Report of the Federal Trade Commission on Anthracite and Bituminous Coal*, 1917, p. 16.

² *The Labour Gazette*, June, 1917, p. 481.

³ *The Board of Trade Journal*, January 24, 1918, p. 92.

⁴ *The Iron and Coal Trades Review*, February 8, 1918, p. 145.

fall and winter months. Special inducements in the form of summer discounts were given with this end in view. Nation-wide educational campaigns to bring about greater co-operation of the public in this matter have been organized in several countries, and prospects are that the results attained will have a permanent beneficial effect not only on coal transportation but also on the financial side of the coal trade in the future.

THE LABOR SITUATION

The labor situation in so far as it affects the world's coal situation offers several distinct features. Throughout the world a shortage of labor has developed in the coal fields. It has been a matter of vital importance to the governments of all the coal-producing countries to provide for an adequate, steady, and efficient labor supply as a means of keeping the production of coal at the maximum. At the beginning of the war the mistake was made in Great Britain, Germany, and Canada of drawing heavily upon the coal miners for service in the army. This mistake reflected itself almost immediately in a decided falling off in the coal production, and made it necessary to send thousands of the enlisted coal miners back to the coal fields. In the United States thousands of men in 1915 and 1916 left the coal fields for more lucrative employment in munition factories, etc., where the scale of wages ranged on an average about 20 per cent higher than wages in the coal fields.

To keep miners from seeking other employment and to remove labor unrest due to wage troubles, liberal allowances for wage increase were made in the regulations governing maximum coal prices. The French law¹ of April 23, 1916, provides that the average wages in mines shall not be in any case below those in effect in 1914 and 1915, and that all payment in kind to the miners or their families, affirmed by local custom, shall be observed. In England the so-called "war wage" containing liberal provisions was established on September 17, 1917. In the United States a special wage-increase allowance of 45 cents per ton was provided for by an order of the United States Fuel Administration of October 27, 1917, this being the second wage increase for coal miners in that year.

¹ *Journal officiel*, April 23, 1916, pp. 3443 ff.

Never before in the history of coal-mining have wages in the coal fields of the world been as high as they are at the present time.

Nevertheless there has been much unrest and numerous strikes have occurred among the coal miners of Great Britain, the United States, and Germany. The main causes for these labor troubles have been shutdowns at the mines on account of shortage of cars, thus decreasing the number of work days, and a heavy increase in mine fatalities, due partly to inexperienced labor and partly to less rigid enforcement of mine safety regulations in order to speed production.

COAL PRICES

The question of wartime coal prices offers many angles of interest. Everywhere prices have increased far above pre-war levels. Voluntary agreements on the part of producers and dealers to limit prices and profits have failed without exception. In all the leading coal-consuming countries of the world maximum prices had to be fixed sooner or later by government action. In every case the maximum mine prices are considerably above the average scale of prices obtaining in the years immediately prior to the war. In every country where maximum sales prices at the mines were fixed liberal allowances were made for wage increases to mine-workers. In Great Britain present maximum mine prices approximate 6s. 6d. above the average mine price which obtained during the year ending June 30, 1914. In the United States special mine prices have been fixed for each state, and in many cases also for certain coal fields within a state. Taking the prices for bituminous and anthracite coal in Pennsylvania as typical, the difference between the average f.o.b. mine price for that state in 1913 and the most recent maximum f.o.b. mine prices is as follows:

Average mine price in 1913 per ton: ¹	
Bituminous.....	\$1.11
Anthracite.....	2.13
Maximum price f.o.b. mines effective February 16, 1918, and March 23, 1918, for run-of-mine per ton:	
Bituminous { Central Pennsylvania.....	2.60
{ Southwest Pennsylvania.....	2.00
Maximum price f.o.b. mines effective August 23, 1917:	
Anthracite { White ash broken.....	4.55
{ Pea.....	4.00

¹ *The Coal Trade*, 1917, p. 158.

In Germany the total increase in mine prices of the Rhenish-Westphalian Coal Syndicate from the beginning of the war to January, 1917, approximated \$1.25 per ton.¹

It should be noted that the universal advances in mine prices of coal under the price-fixing laws of the various countries are due largely to wage increases, although the increased profits allowed the operators have also been liberal. It has been pointed out here and abroad that the increase in the labor item will tend to keep coal prices up after the war.² Labor leaders have repeatedly asserted that after the war the unions would under no circumstances countenance a return to pre-war wage scales.

While a certain degree of uniformity is noticeable in the rise in price levels for coal at the mines in the countries where maximum prices have been fixed, an entirely different picture presents itself if we compare the maximum retail coal prices obtaining under government regulations in different sections of the same country. In most countries the national coal controller has established a uniform maximum margin of profit for all retail coal dealers, while local authorities have fixed maximum retail coal prices for their communities. By reason of the fact that in establishing maximum retail consumers' prices allowances had to be made for increased handling expenses, freight rates, middlemen's profits, war taxes, etc., retail coal prices at the present time universally show a very heavy increase over pre-war prices.

In Great Britain the maximum net margin allowed retailers is 1 shilling per ton, in Canada 50 cents per ton, while in the United States an order of the United States Fuel Administrator, dated October 1, 1917, allows an increase of 30 per cent over the average gross margin of 1915.

In past years the bulk of the coal sold at the mines has been sold under contracts running for a year or more, and consequently contract prices have formed an important element in the coal-price situation during the present war. When the zoning scheme was established in Great Britain all coal contracts were terminated.

¹ *The Iron and Coal Trade Review*, January 5, 1917, p. 7.

² *Report to the American Manufacturers' Export Association by the American Industrial Commission to France*, pp. 149 ff.

An order of the United States Fuel Administrator of December 24, 1917, provides that no contract shall be made for a period longer than one year, that contract prices in the future shall not exceed the maximum prices in effect at the date of shipment of contract coal from the mine, and that all contracts shall be subject to cancellation upon order from the United States Fuel Administrator.

UNIFORM COST ACCOUNTING

While many of the recent economic changes affecting the coal industry are the result of temporary war conditions which will in due time give way to the normal conditions which prevailed prior to the war, some of them unquestionably have brought about permanent changes which will have to be reckoned with in the future. One of these, meriting special attention, is the effect of uniform cost-accounting regulations which have been established here and abroad under government control. In Great Britain, in Canada, and in the United States many thousands of operators, jobbers, and retailers are compiling at regular intervals cost reports on their business along uniform lines prescribed by their respective government authorities. The development of adequate cost systems has for some time been pointed out as a crying need for American business men.¹ According to a recent compilation,² 4,620, or 35 per cent, of all the business failures in 1917 in the United States were due to incompetence resulting from not knowing one's business thoroughly. This is largely a matter of inadequate cost accounting.

In order to procure sufficient data as a basis for fixing maximum prices and margins, the various governments mentioned above require standardized cost reports to be filed by coal producers and dealers, and this practically amounts to a systematic correspondence course in cost accounting covering the entire coal industry and trade. The full benefits of this training in business efficiency will be realized in the future and promises to be of incalculable value in the post-war period of readjustment, when domestic and foreign competition will be felt more keenly than at present.

¹ E. N. Hurley, *Awakening of Business*, 1916, p. 15.

² *Bradstreet's Journal*, February 2, 1918.

TENDENCY TOWARD COMBINATIONS AND STATE REGULATION

There has been considerable speculation as to whether the numerous governmental war measures of regulation and control of the coal industry would lead to nationalization of this industry in the near future. The exigencies of war conditions have brought into prominence as never before the vital importance of conservation of this natural resource. The waste and lack of efficiency in production and distribution under private ownership and under conditions of unrestrained competition were disclosed to the public eye when the old trade machinery broke down under the stress of a sudden dislocation, occasioned by the war, of the customary industrial and commercial organizations. And finally consumers have gradually realized that their interests, as well as those of the state, were not sufficiently safeguarded against the selfish aspirations of powerful and organized trade interests.

As far as public sentiment can be gauged by the press, by parliamentary debates, and by reports of special commissions which have investigated the problems involved, it is a noteworthy fact that the view is apparently rapidly gaining ground the world over that, if not complete nationalization, at least a much greater degree of state regulation of the coal industry and trade than existed before the war is desirable and in the public interest.

A tendency in this direction is already noticeable in legislation recently enacted or planned here and abroad. The French government is backing a bill limiting coal-mining concessions and providing for a participation of the state in the profits of the coal operators. The Austrian government recently introduced a bill for the nationalization of coal mines in that country. It is proposed to limit the period of grace for privately owned concessions to eight years for concessions notified before January 20, 1919, and to two years for those notified later. The scheme of a compulsory coal syndicate put forth by the German Federal Council in 1915 provided for government participation in the proposed coal syndicate. The Spanish law of July 12, 1917, creating a Coal Mining Council, is based on a similar policy. A law recently passed by the Congress of Bolivia provides for the conservation of that country's

coal resources.¹ The Swiss government has taken active measures to exploit coal deposits, a co-operative coal-mining society, with the government as member, having been formed in that country.²

Already several states own and operate coal mines, viz., Prussia, the Government of Victoria in Australia, and Bulgaria. The chief objections urged everywhere against nationalization of the coal-mining industry are the great extensiveness of the coal fields, which would make centralized control difficult, and the immense financial problems involved in taking over the coal mines. However the plan of compulsory syndication of the coal industry with government participation and under government control is being advocated in several countries and apparently is gaining ground as a compromise solution between wartime state control and pre-war private ownership.

In this connection mention should be made of the tendency among operators, jobbers, and wholesale and retail dealers everywhere to form voluntary trade associations and combines. In England such a movement on a large scale was initiated by Lord Rhondda just prior to the war, including not only the colliery owners but also the world-wide coal export trade of Great Britain. In Germany and France coal syndicates and cartels have existed for many years; in fact in the former country a strong effort was made in 1915 to disrupt the leading coal syndicate, which was averted, however, by government intervention. The combination movement has made itself felt most strongly during the war in the United States. In 1917 the National Coal Operators' Association, the National Jobbers' Association, and the National Retail Coal Dealers' Association were organized. In addition to these national associations, numerous state and local associations have organizations of their own, including about fifty operators' associations in various coal fields throughout the country. In Canada a similar movement is noticeable, as also in Sweden. Shipping pools like the Tidewater Coal Exchange, the Lake Erie Coal Exchange, and its successor, the Coal and Ore Exchange, indicate a similar

¹ *Commerce Reports*, March 1, 1917, p. 805.

² *Ibid.*, April 24, 1917, p. 305.

tendency toward syndication among American coal-shipping interests. On the other hand a parallel movement of combining is noticeable among the miners—the number, size, solidarity, and influence of the miners' unions in all the coal-producing countries having greatly increased during the war.

This universal movement of the coal producers and dealers on the one side and of coal miners on the other, to combine for the protection of their common interests, represents one of the significant developments in the world's coal situation, and the chances are that in the near future it will speed the various governments to enact remedial legislation in the public interest. As far as tax legislation is concerned, heavy excess-profits taxes, coal taxes, and coal-royalty taxes have been imposed on the coal industry in a number of countries during the present war. Under the British Coal Mines Control Act of 1918, colliery owners must pay an excess-profits tax amounting to 95 per cent. In France coal operators have to pay an excess-profits tax of 50 per cent, and an additional heavy tax has been placed on coal-land royalties as well as on imported coal. In Germany a coal-tax law provides for a tax of 20 per cent of the mine price per ton. The Austrian parliament recently enacted a similar coal-tax law.

EXPORT TRADE AND BUNKER SITUATION

An analysis of the international coal export situation from 1913 to 1918 reveals some very interesting facts. One of the most significant is the great decline in the coal exports of Great Britain, whose position as a commercial nation rests very largely on her coal export trade. The increased demand for domestic consumption and the decreased available shipping tonnage have brought the total of Great Britain's coal exports from 97,719,996 tons in 1913 down to 51,341,487 tons in 1917. This amounts to a decline in the coal exports for the two years of more than 46,000,000 tons. In comparison with these figures it is interesting to note that the total exports of anthracite and bituminous coal from the United States have increased during the same period from 23,022,746 tons in 1913 to 27,616,500 tons in 1917.

During the war, ocean freight rates on export coal have reached unprecedented figures. As compared with 1914, the last normal year prior to the war, ocean freights from Atlantic ports to European and South American ports have increased as much as 400 per cent. The data in Table II illustrate the increase in freight rates on coal shipped from the United States to Italy and to Montevideo from October, 1915, to the end of 1916.

TABLE II

From United States	To Italy	To Montevideo
October 23, 1915.....	\$14.40	\$ 8.88
January 1, 1916.....	22.80	12.60
May 27, 1916.....	33.60	20.40
November 13, 1916.....	24.00	13.20
December 26, 1916.....	39.60	19.20
April, 1918.....	.....	18.00

Scarcity of tonnage, high insurance rates on account of submarine depredations, and high wages for seamen were the chief causes for these high freight rates, although individual tramp steamers sailing under neutral flags apparently seized upon the opportunities for profiteering.

Closely connected with the question of coal exports is that of coaling stations for bunkering purposes. The nation which controls the coaling stations along the international sea routes will have a great advantage over its competitors in international trade. In the past Great Britain was the foremost maritime nation in possession of strategic artificial coaling stations, and thus gained control of the bulk of the world's supply of bunker coal. Gibraltar, Malta, Port Said, Singapore, Hongkong, and Shanghai are some of the British coaling stations which encircle the globe. The war has effected great changes. While Germany has lost the few coaling stations she possessed at Tsing-Tau, in Africa, and in the Samoan Islands, American, Japanese, and Dutch coals have won new markets. England's exports of bunker coal have declined from 21,031,550 tons in 1913 to 12,988,172 tons in 1916. In the Far East Japanese coal has in many places supplanted English coal, and on the entire Northern Pacific coast of Asia Japanese coal is now predominant. Nagasaki and Yokohama are the chief Japanese coaling ports, and

are used by practically all coal-burning steamers crossing the North Pacific. In the East Indies the Dutch have recently built up a successful bunker trade. Dutch coaling stations, supplying Sumatra and Borneo coal, have been established at Batavia, Soerabaia, and notably at Sabang, a strategic location at the entrance to the Straits of Malacca and on the direct trade route from Europe to the Far East.

The war has brought about a marked increase in the American bunker coal trade of the Atlantic. The excellent coaling facilities at Panama and Colon give the United States complete control of one of the most important replenishing depots of the world's trade. American bunker coal has also supplanted British coal to a very large extent at the leading South American stations.

The following table shows the gradual increase in the tonnage of American bunker coal loaded on board vessels in the foreign trade at the principal Atlantic ports from 1912 to 1917:

1912.....	5,873,018 tons
1914.....	6,080,722 tons
1915.....	6,907,525 tons
1916.....	7,216,656 tons
1917.....	7,454,332 tons

It is evident that England's former supremacy in coaling stations and bunker coal supplies has been weakened during the war by the spread of American, Dutch, and Japanese coal.¹ It is of course problematical to what extent Great Britain may regain her former oversea coal markets after the war. The good quality of her coal may decide. On the other hand greatly increased production, a large fleet of newly built coal-carrying vessels, and intelligent co-operation of American exporters under the new Webb law,² allowing combinations in foreign trade, promise to make the United States the leading coal-exporting country of the world. The financial weakness of foreign countries will be a further potent influence in favor of American exports in the future, and finally a significant fact which must be taken into account is that our facilities for loading coal exceed those of any other country.

¹ *The Americas*, February, 1918, pp. 7 ff.

² *Public Document No. 126*, 65th Congress.

BY-PRODUCT INDUSTRY

One of the most far-reaching and salutary effects of the war upon the coal industry in the United States, Canada, and Great Britain is the powerful stimulus it has exercised on the by-product coke industry. The present war has brought the people of these countries to realize their former dependence on Continental Europe, and on Germany in particular, for the by-products obtained in distilling coal, especially for dyestuffs. Up to a few years ago the United States was the most backward of all great nations in the manufacture of coal tar products.¹ Since 1915 all this has changed. The old beehive oven is being supplanted by by-product ovens to such an extent that in the three years from January 1, 1915, to January 1, 1918, the by-product coke production has practically doubled, and there has been as much gain as in the previous twenty years. In addition to the great stimulus given to the chemical and manufacturing industries by the supply of such an abundance of raw materials, one of the most valuable results of the introduction of the by-product coke ovens is the conservation of our coal supply. It is estimated that the ovens put in operation during the three years mentioned above will save annually to this country the fuel equivalent of 9,000,000 tons of coal.² The value of by-products obtained in the manufacture of coke in the United States from 1913 to 1915 was as follows: 1913, \$16,925,941; 1914, \$17,529,088; 1915, \$29,824,579.

In Great Britain the recovery of by-products from coal is being actively encouraged by the government along systematic lines with a view to future expansion of this industry on a large scale. A special Fuel Research Board has been organized for this purpose, and a fuel research station has been established to investigate the problem of replacing the greater proportion of raw coal now used by the substitution of various fuels obtainable from coal after the by-products have been extracted.³

¹ *Mineral Resources of the United States*, II (1915), 515.

² *Coal Age*, April 27, 1918, pp. 772 ff.

³ *Report of the Fuel Research Board*, London, 1917.

II. GERMANY

The German coal industry had been well organized for several years prior to the present war. The controlling factor, as far as production as well as distribution is concerned, was the Rhenish-Westphalian Coal Syndicate, a stock company organized in 1893 and comprising 67 members in 1914, with a total production in 1912 of 103,409,865 short tons of coal. The Syndicate also controls the transportation of coal on the Rhine and is closely allied with the leading coal dealers' cartels.¹

When at the outbreak of the war a general dislocation of industrial conditions developed, the coal situation in the German Empire was much less affected than in most other countries because of the fact that the coal industry was well organized. It is a significant fact that when war conditions finally made government regulation and control necessary the transition was accomplished by considerably less disturbance of trade conditions than in other countries where state control upset all the customary channels of trade.

The first great problem that came up at the beginning of the war was the threatened dissolution of the Rhenish-Westphalian Coal Syndicate. The voluntary syndicate agreement was to expire in November, 1915, and disagreements among the mine owners made the voluntary formation of a new syndicate improbable. The seriousness of the situation caused the Federal Council to issue a decree² on July 12, 1915, which provided for the formation of a compulsory syndicate unless the syndicate agreement would be renewed.

The compulsory syndicate was to be subject to the supervisory authority of the higher state officials. The Prussian Minister of Commerce would have the right of final decision in fixing prices, and a government official was to be a member of the board of directors with veto powers. This threat of state intervention led the colliery owners on October 14, 1916, to form a so-called "transition syndicate." Finally on April 1, 1917, the syndicate agreement was renewed for five years.

¹ *Report of the Federal Trade Commission on Co-operation in American Export Trade*, 1916, pp. 327 ff.

² *Reichs-Gesetzblatt*, 1915, No. 113, pp. 535 ff.

REGULATION OF PRICES

Maximum coal prices for the German Empire were fixed by the government as early as December, 1914.¹ As the war continued the coal situation grew more serious. Increased demand, decreased production, transportation difficulties, and coal shortages in the large cities brought further government action. On February 24, 1917, an Imperial Announcement relating to the Coal Trade² was published, authorizing the Chancellor to requisition the domestic production of hard coal and lignite and to cause producers or owners of coal to turn their stocks over to parties designated by him. He was also authorized to collect data regarding stocks on hand, production, and consumption. In case of disagreement the price of coal thus requisitioned is to be determined by a board of arbitration, appointed by the Chancellor and consisting of one representative each of the producers, of the coal trade, and of the Imperial Arbitration Board of War Economies.³

A special decree of February 28, 1917, authorized the appointment of an Imperial Commissioner of Coal Distribution.⁴ This office is to be attached to the War Department, but the Commissioner is to be independent in his decisions. The decree authorizes the Commissioner to organize branch offices for equalizing distribution. He is to have an advisory council, consisting of representatives of the Interior and Navy Departments, of the State Governments, the coal operators, the coal trade, and the consumers. The advisory council, whose members are appointed by the Chancellor and who serve without pay, is to be consulted by the Commissioner on all questions concerning fundamental policies.

PRODUCTION DURING THE WAR

During the war the production of coal in Germany has been wholly unequal to the ever-increasing demands. Table III indicates the output of coal, lignite, coke, and briquettes during the years 1913 to 1915 in metric tons.

¹ *Ibid.*, 1914, p. 516.

³ *Ibid.*, 1917, p. 250.

² *Ibid.*, 1917, p. 167.

⁴ *Ibid.*, 1917, p. 193.

Exact figures for 1916 and 1917 have not been published, but an official statement was issued recently¹ stating that the production of coal has approximately reached the level prevailing prior to the war. From the following figures it will be seen that in 1914 the output of coal decreased almost 30,000,000 tons, or about 15 per cent, as compared with 1913, while in 1915 the output of coal was 44,798,804 tons less than in 1913. While the production of coal shows a heavy decline for 1914 and 1915, it is interesting to note that the output of lignite has increased. The reduction in the output is said to have been caused by three factors: an insufficient number of miners and their helpers, a lessening of the productive capacity of the labor force, and a lack of necessary equipment.

TABLE III

	1913	1914	1915
Coal.....	191,511,154	161,535,224	146,712,350
Lignite.....	87,116,343	83,946,906	88,309,554
Coke.....	32,167,716	27,324,712	26,359,430
Briquettes from coal.....	5,823,776	5,948,929	6,392,484
Briquettes from lignite.....	24,447,979	21,448,600	23,350,464

At the beginning of the war fully one-third of the coal miners were called to serve in the army. To make up for this loss of men, the outside men at the mines were replaced largely with women and boys, so that the former might work on the inside. Many prisoners of war were also employed for work in the mines. From time to time soldiers were furloughed to help in increasing the production. In July, 1916, the average output per man per shift was 1.01 metric tons of coal. In April, 1917, the Langenbrahm mine, working under favorable conditions, showed an average of only 0.9 ton, and its total daily production had declined in the meantime from 1,260 to 784 tons.

The cost of production has risen considerably, due largely to increased wages. For the Langenbrahm mine the cost per metric ton was 8.69 marks (\$2.07) in July, 1916, and 16.16 marks (\$3.85) in April, 1917. Wages of German coal miners have increased from

¹ *The Iron and Coal Trades Review*, 1918, p. 145.

50 to 100 per cent during the period from 1914 to 1917.¹ This increased cost of production led to an increase in prices. It has been estimated that the price of coal has advanced 93.5 per cent between 1914 and 1917, while coke prices advanced 72 per cent and the price of briquettes 48.7 per cent in the same period. The high cost of fuel was further augmented by increased costs of transportation, especially water freights, and by special coal taxes. On April 8, 1917, the Coal Tax Law² was enacted which puts a tax on domestic and imported coal. For domestic coal the tax amounts to 20 per cent of the value of the coal at the mouth of the mine. This tax is to be collected from the producer. Coal consumed at the mines and by colliery employees is exempt from this tax, as is also coal used in the manufacture of oils, fats, wax, etc.

The extraordinary demands made upon the railroads by the military authorities materially reduced the output of the mines. Large stocks of coal accumulated at the mines and idle shifts had to be introduced. When the difficulties in distribution began to increase in 1915, the State Mining Administration in the Ruhr district established a general merchant association for the disposal of coal from the government mines. A sales organization was formed for this purpose at Duisburg, with a branch at Mannheim. Later similar sales organizations were formed at Cologne and Hanover.

One of the first steps of an industrial character taken by the German government at the outbreak of the war was to stimulate, so far as possible, the output of coke in order to increase the production of by-products. As a result of the government's action the adoption of coke as a substitute for coal has become more and more general on railroads and for industrial purposes.

Notwithstanding the decrease in production of the German coal mines and the increased domestic demand for coal by war industries, Germany has been able to export limited quantities of coal to Switzerland, Holland, and the Scandinavian countries. This was made possible by the additional output of the Belgian and Polish

¹ *Ibid.*, April 19, 1918.

² *Reichs-Gesetzblatt*, 1917, p. 340.

collieries in the territories occupied by the Germans. On September 2, 1916, an agreement was made with Switzerland which provides among other things that Germany shall supply every month 253,000 tons of coal to Switzerland to be dealt out by the Central Office for the Supply of Coal in Switzerland, at Basel.¹

BELGIAN COAL MINES

Occupation of Belgium brought into German control a considerable annual coal tonnage. In 1913 Belgium produced 22,847,000 tons of coal; in 1915, 14,244,000 tons of coal, 484,000 tons of coke, and 1,202,000 tons of briquettes.

By a special order² the German Governor-General of Belgium on April 26, 1915, established an administrative corporation, the Central Coal Organization (Kohlenzentrale), to deal with all questions appertaining to the distribution of coal, coke, and briquettes produced in Belgium. The headquarters of this organization were located at Brussels, with branches at Liège, Charleroi, and Mons.³ All Belgian coal producers are compelled to place their entire output at the disposition of this organization, which attends to the distribution of the entire output of the Belgian coal mines. Under the special order the proceeds realized from the sale of the coal are to be turned over to the producers after deducting an adequate fee to cover the handling expenses.

III. FRANCE

Of the large coal-producing countries France was hit hardest by the war. As a result of the German occupation of the northern sections of France, nine Departments, covering 68 per cent of the coal supply of France, fell into the hands of Germany.

The normal coal production of the French collieries is about 40,000,000 tons per year. Since the beginning of the war the annual output of coal in France has been cut nearly in half, although more intensive exploitation of the mines in the uninvaded regions has somewhat increased the normal production. The increased output

¹ *The Iron and Coal Trades Review*, 1916, p. 581.

² *Gesetz- und Verordnungsblatt*, No. 65, p. 475.

³ *Ibid.*, No. 134, p. 1259, and No. 96, p. 783.

of the mines in the southern coal districts of France—St. Etienne, Alais, and Le Creusot—was made possible largely by Belgian and French refugees who formerly worked in the coal mines of Belgium and Northern France. The following figures show the total production of coal in France from 1913 to 1917: 1913, 40,843,618 tons; 1914, 29,786,505 tons; 1915, 19,908,000 tons; 1916, 21,477,000 tons; 1917, 28,960,000 tons.

France has never been able to supply sufficient domestic coal for her own requirements. Over against an annual normal production of 40,000,000 tons, the French coal consumption prior to the war averaged 60,000,000 tons per year. The normal shortage of approximately 20,000,000 tons was made up through importation. In 1913 the coal imports of France were as follows:

From Great Britain.....	11,257,000 tons
From Belgium.....	3,669,000 tons
From Germany.....	3,491,000 tons
From other countries.....	294,000 tons
Total.....	18,711,000 tons

Since 1914 the fall in production has been accompanied by a fall in consumption to about 40,000,000 tons, leaving the coal shortage as before—about 20,000,000 tons. Nearly all of the coal imported into France since 1914 has come from England. In 1914 imports from England amounted to 15,430,000 tons; in 1915 to 19,067,000 tons; in 1916 to 20,952,000 tons; and in 1917 to 18,470,000 tons.

REGULATION OF PRICES

In 1914 and 1915 the fuel situation in France was not alarming. In the beginning of 1916, however, the demand for coal increased both for munition plants and for private industries, and the increase in price of coal assumed disquieting proportions. Under normal conditions the average mine price of coal in France fluctuated between 10.8 francs and 15.8 francs. With the heavy decrease in production caused by the loss of the northern coal mines, in addition to increased demand and abnormally high freight rates for imported coal, the price of coal at the mine had increased in the winter of 1915-16 up to 70 francs per ton. Freight rates on

British coal had increased from 8 francs in 1914 to 60 francs per ton in April, 1916.¹

The French government now initiated a series of regulatory measures intended to curb speculative prices and to control distribution. By a special law of April 22, 1916,² it was provided that maximum prices be fixed for coal sold at the mines and for imported coal. A presidential decree appointed a central commission for fixing coal prices under the foregoing law. Maximum prices were first announced on August 8, 1916,³ and revised several times thereafter by subsequent ministerial decrees.

A decree of December 31, 1917,⁴ fixed maximum prices at the mines for the Savoie and Haute-Savoie basin, as follows: large screened coal, 52.25 francs; run of mine, 42.25 francs; small sizes, 32.25 to 37.25 francs. Maximum freight rates on contracts for the transportation of coal between British and French ports were fixed on May 27, 1916.

To insure greater co-operation among the government departments controlling the imported and French mined coal, a new Ministry of General Subsistence and Maritime Transports (*Ministère du ravitaillement général et des transports maritimes*) was organized, under a presidential decree of April 7, 1917,⁵ which took charge of all food and fuel supplies both domestic and imported. A special decree of June 1, 1917,⁶ created within the Ministry of Subsistence a Fuel Division (*Direction des combustibles*) and Mr. Duperrier, the chief engineer of bridges and highways, was appointed head of this division. By a decree of July 3, 1917, the general direction of the national fuel supply was transferred to the Minister of Munitions and War Manufactures, the Undersecretary of State for War Manufactures, M. Loucheur, to be in direct charge. The same decree also transfers to the same undersecretary the administration of coal mines, thus concentrating the control of production and distribution of coal in the same authority. On November 28, 1917, a Consulting Committee of Mines was created by a special decree to assist the Ministry of

¹ *L'Economiste français*, March, 1917, p. 270.

⁴ *Ibid.*, January 1, 1918, p. 91.

² *Journal officiel*, April 23, 1916, p. 3443.

⁵ *Ibid.*, May 6, 1917, p. 3614.

³ *Ibid.*, August 9, 1917, pp. 7220 ff.

⁶ *Ibid.*, June 6, 1917, p. 4411.

Armament and War Manufactures in increasing the production of the coal mines.

Considerable suffering on the part of small consumers who were largely at the mercy of profiteering coal speculators, who bought up coal from the importers and coal-mine operators, led to further government control of distribution. On April 29, 1917,¹ the Minister of Subsistence authorized the prefects of each county to organize coal apportionment commissions to be presided over by sub-prefects and to be composed of the general councillors of the county and of the mayors of the chief cities. Beginning with June 15, 1917, coal is to be sold to consumers only upon coal cards authorized by the above-named commissions. The maximum quantity of coal to be delivered weekly to each household is limited to 50 kilograms (110 lbs.). To prevent hoarding, coal dealers and others had to declare in the mayor's office before June 20, 1917, the quantity of coal in their possession in excess of 1,000 kilograms.

The importance of safeguarding the country's coal resources in the future is being fully recognized by French statesmen. It has been proposed to amend the French Mining Law of 1810 by modifying the duration of concessions and including the participation of the state in the profits of the mines. A recent bill² backed by the government provides that mines become the property of the state on the expiration of the concessions, the duration of which shall be limited to 99 years. The bill provides also that the state be given a progressive share in the profits after cumulative profits of 6 per cent on the share capital have been allotted to the proprietors. In the *exposé des motifs* accompanying the bill it is pointed out that the proposed reforms have already been put into effect through indirect methods.

In France as in Great Britain the coal industry has been heavily taxed during the war. A law of July 1, 1916,³ imposes a war excess-profits tax of 50 per cent on mine owners. The Budget Law⁴ of December 30, 1916, doubled the taxes on mining royalties

¹ *Ibid.*, April 30, 1917, pp. 3453 ff.

² *Ibid.*, Doc. Parl., 1917, Ch. Dep., p. 1956.

³ 12 Dalloz 177.

⁴ *Journal officiel*, Dec. 30, 1916, p. 11209.

and a decree of November 5, 1917,¹ imposed a tax of 5 centimes per ton on imported coal to pay the expenses of the national coal bureau.

IV. GREAT BRITAIN

The outbreak of the war came at a time when the British coal industry was in the midst of the most profitable period of its history. During the seven years from 1907 to 1914 prices, profits, and wages were higher and trade conditions generally more stable than in any previous period. A significant feature of the British coal trade during the period just mentioned was the combinistic movement, initiated by Lord Rhondda, who brought about an immense concentration of ownership in coal properties. About one-third of the output of the South Wales coal field was brought into the control of three combines—the Ocean-Wilson, the Cambrian, and the Ebbw Vale-Beynon combines. Formerly the producing and the marketing ends of the British coal trade were quite separate. Lord Rhondda was instrumental in bringing about a change by linking with his colliery interests some of the leading domestic selling agencies and a large proportion of the British coal export machinery, including numerous coal depots in foreign countries.

With the war a complete change has come over the whole coal industry and trade of Great Britain. Competition has been superseded by state regulation to such an extent that at the beginning of the present year the tentacles of the state almost entirely inclose the industry. A view of the complex government machinery which has displaced private control of Great Britain's coal industry may be gained from the following list of government departments:² Department of the Controller of Mines, Department of the Shipping Controller, War Trade Department (Coal Division), Coal Exports Committee, Ship Licensing Committee, Inter-Allied Chartering Executive, Italian Coal Committee, Bureau des Charbons of the Ministère des Travaux Publics, Paris, Central Executive Committee of Great Britain for the Supply of Coal to France and Italy. The most important of these departments and committees are now under the direction of the Controller of Coal Mines in whose hands

¹ *Journal officiel*, Nov. 5, 1917, p. 8903.

² *Statist*, 1918, p. 187.

the control of all the various phases of production and distribution has been gradually centralized.

Labor unrest in South Wales, which supplies most of the coal for the British navy, was the decisive factor which led directly to the taking over of the coal mines by the state. From the beginning of the war there had been trouble in South Wales, arising from the constant conflict between the coal miners and the colliery owners on the question of wages. Finally David Lloyd George, then Minister of Munitions, intervened and conceded the miners a 15 per cent bonus despite the opposition of the operators.

When, however, new disputes arose growing out of a further demand by the miners for a second 15 per cent increase of the war bonus and this trade dispute threatened to interfere seriously with Great Britain's coal supply, the British Government, by an order of the Board of Trade under Regulation 9G of the Defense of the Realm Act,¹ assumed control of all the coal mines in South Wales, on November 29, 1916, for the period of the war. On February 22, 1917, the remaining coal mines were placed under control of the government.

Up to the beginning of 1917 numerous voluntary emergency agreements had been put in operation for the purpose of coping with the extraordinary coal situation that had developed. The underlying purpose of all these schemes had been to interfere as little as possible with the ordinary trade channels. However all the various voluntary efforts were without permanent success. More stringent centralized government control became necessary. Accordingly on February 19, 1917, the Board of Trade established a separate office, the Coal Mines Department, to control the coal industry. Mr. Guy Calthrop, formerly general manager of the London and Northwestern Railway Company, was appointed Controller of Coal Mines. An advisory board consisting of seven representatives each of the colliery owners and of the Miners Federation, and a special board of financial advisers and special assistants in matters relating to the production and distribution of coal were attached to the Controller's office. The powers given to the

¹ *Defense of the Realm Manual*, 3d enlarged edition, revised to February 28, 1917, p. 315; see also *Board of Trade Journal*, February 22, 1917, p. 550.

Controller are very comprehensive and include full power to control the production, distribution, prices, and consumption of coal in so far as he may consider necessary.

REGULATION OF PRICES

Prior to taking over the coal mines the government had enacted a law limiting mine prices. In the early stages of the war difficulties of distribution, arising out of congested railway traffic, a heavy increase in domestic demand, and greatly decreased production, had resulted in ever-rising prices. To curb these the Price of Coal (Limitation) Act of July 29, 1915, was passed,¹ which established a maximum or "limitation" price for coal at the mines. It provides that the price of coal sold at the pit's mouth shall not exceed the average price for the same kind of coal realized during the twelve months ended June 30, 1914 by 4 shillings per ton. Later the Board of Trade authorized a further advance amounting to 2 shillings 6 pence per ton, in order to offset a wage increase granted miners. Thus the maximum price fixed by the government for coal at the mines amounts at the present time to the average price for the year ended June 30, 1914, plus \$1.62 per ton.

The commission of wholesalers and jobbers was regulated by the Wholesale Coal Prices Order of September 5, 1917. This order imposes a maximum of 1 shilling per ton to the pit head prices, in addition to the actual cost of transport, for coals for household consumption.

The profits of retail coal dealers in the provinces were regulated by the Retail Coal Prices Order of September 11, 1917. Under this order the prices at which coal delivered by vehicles from a depot, wharf, or railway siding, in lots of one ton or over, may be sold shall not exceed by more than 1 shilling per ton the price of the coal delivered at the depot, in addition to the cost of handling and delivery. The maximum retail prices in each locality are to be fixed by local authorities—borough, urban, and rural district councils in England, county and town councils in Scotland, and

¹ 5 and 6 Geo. 5. ch. 75. *Defense of the Realm Regulations* (monthly edition) consolidated and revised to March 31, 1917, edited by Alexander Pulling, C.B., p. 2.

borough and urban district councils, town commissioners, and rural district councils in Ireland. The local authorities after investigation of the figures submitted by the local coal merchants are to publish in the local press lists of prices allowed and the retail dealers must display these price schedules.

REGULATION OF LONDON RETAIL TRADE

During the winter of 1916-17 a serious coal shortage developed in London, the ordinary trade channels for distribution breaking down completely. To prevent recurrence of such a situation, a special Household Coal Distribution Order for London was put into operation August 10, 1917. This order covers an area comprising about two million separate houses and premises. A metropolitan Distribution Branch was established and charged with the execution and administration of the order. Under this order retail coal purchases are limited, for the period from October 1 to March 31, to from 2 cwts. per week for a house of not more than 4 rooms to 1 ton for a house of 7 rooms. For the period from April 1 to September 30 in each year the allowance shall be at the rate of half that provided for the former period. Additional allowances are provided for the aged, infirm, etc.

The order further provides that every person dealing in or selling coal in quantities exceeding 2 cwts. at one time shall register with the Controller. Each local authority shall appoint a Local Coal Overseer whose duty it shall be to report to the Controller on the requirements for the storing, handling, delivery, and retailing of coal within his district. and to recommend whatever improvements he finds necessary to safeguard the interests of consumers. The Local Coal Overseer also has charge of reserve stocks of coal. After October 1 no coal is to be sold or purchased except under a written requisition giving the existing stock available to the consumer. Special provisions are made to promote the selling of coal in small quantities and every encouragement is given to small dealers to continue in business.¹

The following table shows the maximum prices per net ton for household coal to consumers in London as issued in

¹ *The Iron and Coal Trades Review*, 1917, pp. 161 ff.

February, 1918, by the Mines Department of the Board of Trade:

Best selected house coal.....	39s. 6d.
Silkstone or seconds.....	37s. 6d.
Derby brights.....	36s. 6d.
Best kitchen, best cobbles or nuts.....	36s. 6d.
Hard cobbles or kitchen nuts.....	34s. 6d.
Stove coal.....	33s. 6d.

ZONING SCHEME

One of the most far-reaching changes brought about by the Controller is the so-called Redistribution Scheme, the purpose of which is to economize transport facilities by securing the consumption of coal as near as possible to the point of production. The necessary powers were provided by the Coal Transport Order of July 4, 1917. Long-distance and cross hauls are prohibited. The country is divided into twenty zones, to each of which is allocated a definite source of supply. The District Coal and Coke Supplies Committees were appointed to administer the provisions of this order. It was estimated that this arrangement would effect a transport saving of 700,000,000 ton miles annually.

The results attained by this zoning scheme appear not to have been entirely satisfactory.¹ It seems that the immediate effect of the order was widespread disorganization and complaints of short supplies and unsuitable deliveries. By more elastic methods of administration, however, conditions gradually appear to have improved. In accordance with secs. 2 and 3 of this order every contract of sale was abrogated on September 8, 1917, in order that a re-allocation of the supplies of coal might be effected.

CONTROL OF COLLIERIES

A comprehensive scheme of colliery control was effected by the Coal Mines Control Agreement (Confirmation) Act of January, 1918. In its original form and before it was enacted into law, this agreement was the subject of four months of negotiation between the Controller and representatives of the Mining Association. This law authorizes the Controller to take over in whole or in part

¹ *The Statist*, 1918, pp. 136 ff.

the management either of all coal-mining undertakings generally or of the undertakings in any particular district or of individual undertakings.

A feature of this act is a compensation scheme whereby colliery owners are to be paid a compensation in full satisfaction of all claims arising out of government control of the mines. The pre-war output is adopted as the standard output, and the pre-war average profits as standard profits. If the pre-war output is maintained, the standard profit is guaranteed, whether a colliery makes it or not. If the profits fall below this average, the difference will be made good by the Controller. When collieries fail to maintain their pre-war standard output, their profits will be reduced, but not quite in proportion to the decreased output.

The profits of the operators are limited in the most favorable cases to £200 plus 5 per cent in excess of pre-war profits. The remaining 95 per cent of the excess profits must be paid to the government—80 per cent in the form of Excess Profits Duty and 15 per cent as Coal Mines Excess Payments. This latter 15 per cent is to be used for the compensation of collieries that are unable to make their standard profits and to defray the administrative expenses of the Controller's Department. Excess profits are collected by the Commissioner of Internal Revenue.

The act provides that the owner of every colliery shall keep and furnish to the Controller at such times and in such form as the latter may determine such cost accounts, trading accounts, balance sheets, and other accounts as the Controller may require audited; and they must be verified in such manner as he may direct. The Controller, or any person appointed by him, may require the owner or any officer of a mine to furnish any information which may be reasonably required. All information thus obtained must, however, be treated as confidential. No dividends shall be paid and no bonus repaid in respect to any mine without the consent of the Controller. In case of any dispute arising under this agreement between the Controller and the owner not otherwise provided for, an arbitrator appointed by the Lord Chief Justice shall arbitrate the same. If an owner intends to close or abandon a mine he is required to give sixty days' notice. When the Controller closes a

mine the cost of maintaining and reinstating it does not fall on the state, but may on the application of District Associations be met by a levy on the district or group of districts in which it is situated. While mine operators' profits will be considerably curtailed under this law, it is quite generally conceded that they have made very substantial profits during the war, especially up to the time when the allowance of 1s. 6d. per day to the miners began and when the cost of supplies began to increase.¹

Still more drastic regulations, interfering in part with technical details of colliery workings, were announced by the Coal Controller on March 16, 1918. This latest order provides that no owner of a coal mine shall without previous notice to the Controller of Coal Mines incur any expenditure on sinking, widening, or deepening of shafts; on making or driving of slants or adits; opening or reopening of seams; erection or acquisition of any additional buildings, plant, or machinery not strictly required for the purposes of repair or maintenance.

The order provides further that no owner of a coal mine shall without previous written authority of the Controller of Coal Mines increase or decrease wages or bonus of mine officials or work people otherwise than in accordance with the awards or agreements of conciliation boards or other duly constituted machinery for regulating rates of wages.

PRODUCTION DURING THE WAR

One of the chief objects of government control in England has of course been to maintain the output of coal. The following table shows the annual production of coal in Great Britain for the past five years:

Year	Gross Tons
1913.....	287,698,617
1914.....	265,664,393
1915.....	253,206,081
1916.....	256,348,351
1917.....	248,473,119

From the foregoing figures it will be seen that the production of coal mined in Great Britain during the war has decreased con-

¹ *The Economist*, 1917, p. 287.

siderably as compared with the pre-war output. The production for the year 1917 amounts to approximately 40,000,000 tons less than the production for 1913, while the production for 1917 amounts to a decrease of 7,875,232 tons as compared with 1916. This decrease in output is attributed to the following causes: (1) labor shortage caused by enlistment, (2) lack of timber, (3) transportation difficulties, (4) strikes.

Labor shortage was the primary cause for the decline in production. In 1916 over 25 per cent of the men employed about the mines had enlisted for military service. This decrease in labor reflected itself immediately in a corresponding reduction in the output of coal, the production in 1914 being approximately 22,000,000 tons below that of 1913, while in 1915 it dropped about 34,000,000 tons below the production of 1913. In order to increase the output about 16,000 miners were exempted from war service and brought back to the mines.¹ Largely as a result of this the production of 1916 increased slightly over that of the preceding year, the increase amounting to about 3,000,000 tons. In 1917 there were 1,021,340 persons employed at the mines, amounting to a decrease of 106,558 on the pre-war year of 1913 but an increase of 23,277 persons on the figures of 1916. In many cases the places of young and vigorous trained men were taken by other workmen who came into the coal fields but who were much less efficient than the trained miners who had enlisted. Then too difficulty in obtaining coal-mining machinery and scarcity of skilled labor for working the machines held down production, so that last year's output was the lowest since the beginning of the war.

The timber shortage was mainly a scarcity of pitwood needed for propping up roofs in the mines. This scarcity was brought about by the curtailment of the importation of pitwood in order to economize shipping tonnage. To remedy this situation the government promoted the organization of Pitwood Associations, seven of which have been formed, to develop and make accessible the supply of home-grown timber. A Controller of Timber Supplies was appointed who has charge of supplying the collieries with pitwood and other necessary timber. Maximum prices were

¹ *Parliamentary Debates*, March 27, 1917, p. 278.

fixed for pitwood timber and stocks were limited to twelve months' future consumption.¹

Transportation difficulties kept down production in certain coal fields. In Wales, in the north of England, and in Scotland collieries have been able to work only irregularly owing to want of shipping to take away the cargoes for which licenses had been issued. In November, 1917, the executive of the Miners' Federation of Great Britain came to an agreement with the Coal Controller to secure greater mobility of labor employed in the coal mines during the war. Bureaus were established in various mining districts for the purpose of facilitating the removal of miners from districts where the mines are overcrowded, and from those places where there is irregular work and waste of man's producing power owing to shortage of shipping tonnage or railway cars available to haul the coal away. The men who remove from one district to another are to get the wage of the district which is higher, and in addition a subsistence allowance including railway fare. There are varying scales for married and single workers.²

Labor disputes and resulting strikes constituted a very important factor in keeping down the coal output. In 1916 there were 67 strikes in the coal mine fields, involving 61,611 work people. The duration of the disputes amounted to 310,600 working days. Conditions in 1917 were worse, for the number of strikes amounted to 116, involving 267,045 people and 1,098,400 working days.³ By referring to the annual production statistics given on page 594 one will readily see how these strikes are reflected in the decreased output of coal.

As a result of war conditions the powers of the Conciliation Boards have been virtually paralyzed. In the earlier stages of state control it was intended to retain as much as possible of the local machinery governing the relations between employers and workmen—the Conciliation Boards and their powers were to be respected and their decisions enforced. There were no other agencies by which discipline could be maintained. All this has

¹ *The Iron and Coal Trades Review*, 1917, pp. 163 and 541.

² *Ibid.*, 1917, p. 541.

³ *Ibid.*, 1918, p. 60.

changed. In most of the coal fields the Conciliation Boards and their agreements have ceased to count. The men carry their disputes to the Board of Trade or the Committee of Production and simply repudiate any obligation to submit wage differences to the decision of the boards. In consequence of this state of affairs discipline is said to have been completely undermined.¹

Miners' wages have been increased considerably since government control was established. Beginning with September 17, 1917, the so-called "war wage" was granted, amounting to an increase of 1s. 6d. a day for each day on which a man works or is ready to work and able to do work, and 9d. a day for boys under 16 years old. A feature of this arrangement is that increases are paid men when the mine is idle for lack of trade. This was done to give some relief to miners in the export districts where shipping losses cause irregular work. In 1916 the rates of wages of 865,000 workers in the coal regions were changed, the net increase in weekly wages amounting to £227,000. In 1917 the wages of 1,000,000 mine workers were increased, the increase in weekly wages amounting to £437,200.

EXPORT OF COAL

In the history of British commerce coal plays an all-important part, the foreign trade of Great Britain in the past having been in no small measure maintained on the basis of coal exports. Coal forms the bulk of British outward cargoes, in 1913 the estimated weight of all British exports amounting to 97,000,000 tons, of which about 76,500,000 tons was coal. By taking on cargoes of coal for export to overseas British shippers were able to bring back raw materials needed by British industries. By filling the ships both ways freight rates were reduced, and this meant for British industries lower costs of production and of marketing.

Prior to the war a feature of the British coal trade was the steady increase of foreign demand over home consumption. The war has changed this completely, for it has brought on an increase in home consumption, while export shipments have decreased. The two chief causes which brought about this change are abnormal

¹ *The Economist*, 1917, p. 527.

expansion in home markets to meet requirements for war and increasing shortage in the world's supply of tonnage.¹

The following table indicates the home consumption of coal as compared with the export trade in coal from 1913 to 1917:

	Home Consumption	Export Shipments
1913.....	191,000,000	97,719,996
1914.....	184,500,000	81,027,000
1915.....	193,000,000	59,952,000
1916.....	201,000,000	55,001,113
1917.....	201,000,000 (estimated)	51,341,487

If the export figures given above for 1913 are taken as a standard it will be seen that the British coal export tonnage has been reduced nearly half since the beginning of the war. In comparing the export figures with the production tonnage it will be seen that while in 1916 approximately 35 per cent of the tonnage produced was exported, in 1913 the coal exports amounted to only about 20 per cent.

Under government control the sole consideration with respect to the coal export trade was to meet the needs of home consumption and those of the allied countries. Neutrals were permitted to purchase only such quantities as state policy would allow. This involved great sacrifices to certain producing districts. Thus the Welsh district was obliged to give up the South American trade, which before the war amounted to more than 5,000,000 tons a year.

For the last three years the question of ocean freight rates has been a very serious factor in the export trade. While the rates allowed British vessels were subject to fixed schedules, regulated by the government, scarcity of tonnage and war risks resulted in excessive freight rates by neutral vessels. The following table indicates the average freight rates per ton in 1914 as compared with current rates in 1916:

	1914	1916
For Barcelona.....	9s. 4½d.	£17
For Port Said.....	9s. 7½d.	160s.
For River Plate.....	14s. 3 d.	130s.
For Gibraltar.....	7s. 9½d.	100s.

¹ *The Statist*, 1918, pp. 136 ff.

AFTER-THE-WAR PROBLEMS

Fully recognizing the important bearing of the coal industry upon Great Britain's future position as a world-power the British Government already has initiated comprehensive plans for the development and expansion of the British coal industry in connection with industrial reconstruction after the war.

Three committees or boards under the British Ministry of Reconstruction are working along these lines. The first is the Coal Conservation Committee. The purpose of this body is to consider and advise (1) what improvements can be effected in the present methods of mining coal with a view to prevent loss of coal in working and to minimize the cost of production; (2) what improvements can be effected in the present methods of using coal for production of power, light, and heat, and of recovering by-products with a view to insuring the greatest possible economy in production and the most advantageous use of coal; (3) whether, with a view to maintaining Great Britain's industrial and commercial position, it is desirable that any steps be taken in the near future, and if so, what steps, toward securing the development of new coal fields or the extension of coal fields already being worked.

This committee has already issued an interim report which deals with the extent to which conservation of coal will effect economy in the production of motive power and other forms of energy, with the resulting expansion of industry and with the steps necessary to attain these objects. The committee emphasizes the fact that 80,000,000 tons of coal are consumed yearly in the production of motive power in Great Britain, and finds that if the power supply in Great Britain were dealt with on comprehensive lines and advantage taken of the most modern engineering developments, the saving in coal throughout the country would in the near future amount to 55,000,000 tons annually on the present output of manufactured products apart from a possible saving on domestic coal consumption.¹

¹ The following comments in a recent number of a British journal (*The Statist*, March 2, 1918, p. 358) merit attention. In discussing lessons that have been learned from the war in so far as the British coal industry is concerned, the writer states: "One lesson is the great value of coal as a local and national asset. Another is that

V. OTHER EUROPEAN COUNTRIES

In the neutral countries—Sweden, Norway, Denmark, Holland, and Switzerland—the coal situation has become more and more difficult as the war continues. The manufacturing industries have been seriously paralyzed, and widespread suffering has been occasioned among household consumers by the unprecedented fuel shortage. These countries are almost wholly dependent upon Great Britain and Germany for their coal supply, but neither of these two countries has furnished them with anything like a sufficient supply. Only on very exacting conditions were limited fuel supplies to be had.

In Holland the Royal Coal Distribution Bureau has charge of the distribution of coal to the more important industries. Local fuel committees under the direction of the burgomasters supervise distribution in the provinces and towns.

In Switzerland the coal imports are controlled by the Central Office for the Supply of Coal, which has its headquarters at Basel. Maximum prices for imported coal in carloads were fixed by a decree of the Swiss Political Department, March 7, 1917. The imports of coal into Switzerland have been as follows during the past five years:¹ 1913, 3,379,000 tons; 1914, 3,108,000 tons; 1915, 3,311,000 tons; 1916, 3,151,600 tons; 1917, 2,286,000 tons. Approximately 90 per cent of the Swiss coal imports came from Germany. As a result of the serious coal shortage during the winter of 1917-18 the gas supply in the cities had to be cut down to a minimum and railroad traffic had to be greatly reduced. In Switzerland, as in Norway and Sweden, large water-power resources have

the old-time internecine competition and undercutting of prices mean wasted material and effort. A third is that the by-products of coal are an invaluable source of wealth, which has been shamefully neglected, and which must be tapped at home by patent recovery coke ovens all over the district. A fourth lesson is the need for a larger outlook—for imperial coal trade routes and depots, for cheaper ocean transport and co-ordinated facilities for handling coal from the pit's mouth to the port of shipment and from the port of shipment to its destination abroad. The coal export trade of the future promises to centre in larger and stronger hands which will combine and gather under associated control the functions of raising, shipping and selling coal, so that the whole business can be conducted on a larger scale, at a smaller cost, and with a maximum of efficiency."

¹ *L'Economiste français*, 1918, p. 458.

been utilized and are being developed to compensate for the shortage of coal.

In Sweden the fuel situation has become so critical during the war that the National Fuel Commission has commandeered all combustibles, including coal, coke, wood, and benzine. Coal and coke cards have been introduced, but they cover only about one-seventh of the normal consumption.¹ Owing to the scarcity of coal many railways and steamers are burning wood. The state is promoting the production of peat briquettes on a large scale. In the Swedish coal trade a general tendency to combine has been noticeable, and in Stockholm a concern has recently been incorporated, the A. B. Kol and Koks, with a capital of five and one-half million crowns, to concentrate that city's trade in coal and coke.²

Spain is one of the countries whose coal production has slightly increased during the war, although it is not sufficient to supply the domestic demand. The total production of bituminous, anthracite, and lignite coal has increased from 4,424,439 tons in 1914 to 5,588,594 tons in 1916, and the production for 1917 is estimated to be in excess of that of 1916. A significant development in connection with the coal industry of Spain is the formation of the National Coal Mining Council (*Consorcio Nacional Carbonero*), which embraces all the coal-mine owners of the country. It was organized under a royal decree of July 12, 1917.³ Under this decree all coal operators are combined into regional syndicates, which are represented by a total of 12 delegates, one for every 500,000 tons of production, in the Council. The latter has an official character and includes in its membership representatives of several government departments. The president of the Council is appointed by the government. According to the decree the principal objects of the Council are to increase production, to build railways, docks, and storage plants, and to regulate distribution and prices. Through a government bank the Council is to be subsidized. This is the first instance of a compulsory national coal

¹ *The Economist*, 1917, p. 39.

² *The Americas*, 1917, p. 18.

³ *Gaceta Madrid*, July 14, 1917.

syndicate with state participation along the lines of the Italian Sulphur Syndicate.

Russia like France has lost, for the time being at least, some of her largest coal-producing districts. The loss of the Dombrova coal field in Poland amounts to an annual loss in coal production of about 7,000,000 tons. The output of the Denez basin has decreased during the war to more than half of its normal production. The shutting off of British imports via Baltic ports and the Black Sea has further increased the coal shortage of Russia so that only about 20,000,000 tons of domestic production remain for that country's consumption. Throughout Russia oil, wood, and peat have quite generally replaced coal.

The Italian coal situation became acute with the country's entrance into the war. Formerly Italy got the bulk of its coal supply from Germany. During the past two years Great Britain supplied the bulk of Italy's coal, the imports of fuel amounting to about ten million tons in 1916 and slightly more in 1917. In 1916 the United States exported 1,770,668 tons of coal to Italy, in 1917, only 566,069 tons. High freight rates resulted in exorbitant coal prices until an arrangement was made with Great Britain by which maximum freight rates were fixed. At the same time maximum sales prices were established for imported coal by the director of the National Fuel Commission, De Vito.¹ The same decree of December 31, 1916, which established maximum prices provides further that retail coal prices shall be fixed by the prefects and that retailers' gross margins shall not be in excess of 5 lire (\$1.00) per ton.

Prior to 1914 not much coal was produced in Italy, but the great scarcity of coal since coal shipments from Germany ceased resulted in an increase in domestic production. In 1916 there were 148 coal mines active as against 59 in 1915, and the domestic production of lignite increased from 939,027 metric tons in 1915 to 1,282,819 in 1916, while the production of anthracite increased from 9,314 tons in 1915 to 18,544 in 1916. Freight rates on coal from Cardiff to Genoa had increased from 7s. per ton in July, 1914, to 26s. in May, 1915, and to 80s. in 1916.² In exceptional cases,

¹ *Collezione Celerifera delle leggi*, etc., Roma, January 20, 1917, pp. 47 f.

² *Journal des économistes*, 1918, pp. 190 ff.

it is reported, coal retailed as high as \$120 per ton. A Commissioner General for Fuel was appointed by a special decree of August 5, 1917.¹

VI. AUSTRALIA

In view of the fact that legislation in Australia is "advanced" to a degree unknown elsewhere in the world, a brief review of the price-fixing laws and other wartime legislation affecting the coal industry is of interest. The parliaments of all the Australian states, with the exception of Tasmania, early passed price-fixing legislation, and within two months of the commencement of the war tribunals with varying degrees of power were appointed to administer the several acts.²

In New South Wales the Necessary Commodities Control Act of 1914 provided for a commission of three to inquire into and to report as to what should be the highest selling prices of any "necessary commodities." Under this act coal, firewood, and other fuel were defined as "necessary commodities." On the report of the Commission, the Governor in Council fixed maximum prices, and the results of the work of the Commission, which had all the powers of the Supreme Court of the State, and a large staff of officers and inspectors were much more far-reaching and extensive than elsewhere in Australia.

In Queensland the Control of Trade Act of 1914 was almost identical in terms with the above-mentioned law of New South Wales. In Victoria the Price of Goods Act of 1914 lapsed for political reasons.

The Prices Regulation Act passed by the South Australian legislature in 1914 provided for a Price Regulation Commission of three members who were authorized in their absolute discretion to declare any commodity to be a necessary of life within the meaning of the act. In case any person failed to sell goods at the fixed price the goods became liable to forfeiture to be paid for at the fixed price.

The Control of Trade in War Time Act, 1914, of the State of Western Australia lapsed in 1915 and was not re-enacted.

¹ *Gazz. Uff.*, 9 agosto, 1917.

² H. L. Wilkinson, *State Regulation of Prices in Australia*, 1917, pp. 24 ff.

In 1916 the War Precautions Act was passed by the Federal Parliament and the Federal Government announced the power to control the prices of commodities under this act. A Price Fixing Commission was appointed to each state to assist and make recommendations as to prices. These, after being co-ordinated by a central department, formed recommendations on the basis of which prices were fixed through the Governor-General.

In November, 1916, a coal miners' strike occurred throughout Australia, and a complete stoppage of mining operations resulted. A special board, consisting of a Judge of the Supreme Court, was appointed by the Commonwealth Government to settle the hours of labor, wages, and working conditions, and at the same time fix the selling price of coal. A decision in favor of the striking employees was given by the judge, and the employers acquiesced, as the increased cost of mining that would result from the decision was to be compensated for by the board fixing the selling price of coal at such an increased rate that their profit was assured. The selling price was fixed after inquiry as to the cost of putting coal on the market and after making a fair allowance for profit.

On August 20, 1917, the War Precautions (Coal) Regulations¹ were promulgated which authorize the Minister of State for the Navy to appoint coal boards which are to regulate the supply of coal in the Commonwealth. Under these regulations all persons, firms, or companies possessing more than five tons of coal or coke must report the quantity and place of storage. Coal and coke shall not be sold or supplied to anyone for any purpose whatever without the written consent of the Minister for the Navy or the Coal Board. All stocks of coal in excess of five tons are subject to being turned over on written notice from the Minister or Coal Board to any other person, firm, or company specified in the notice, on payment of cost, including delivery charge, plus 10 per cent on such cost. All electric light and gas companies are prohibited from supplying electric current or gas for industrial purposes without written consent from the Minister or Coal Board.

¹ Australia, Statutory Rules, 1917, No. 195.

VII. CANADA

The coal situation in Canada in the course of the present war has had many points of similarity with conditions that developed in the United States during the same period. Transportation difficulties, coal shortages, and high prices in the chief centers of consumption developed almost parallel in both countries. This was caused largely by the close dependence of the great central provinces of Ontario and Quebec, the chief centers of population, upon the coal fields of Pennsylvania and Ohio for their coal supply. Notwithstanding the enormous coal resources of Canada, over 50 per cent of her domestic consumption is imported from the United States.¹

Table IV shows the imports of coal from the United States to Canada from 1913 to 1917.

TABLE IV

	1913	1914	1915	1916	1917
Bituminous	10,743,473	7,776,415	6,474,683	9,514,552	15,537,262
Anthracite	4,642,057	44,435,010	4,077,192	4,570,815	5,320,198
Coke	723,906	553,046	637,857	757,116	1,231,865
Bituminous dust . . .	2,816,423	2,509,632	2,580,141	3,505,236	.....

From the following figures it will be seen that the coal production of Canada has constantly decreased during the past five years: 1913, 15,012,178 tons; 1914, 13,637,529 tons; 1915, 13,267,023 tons; 1916, 14,483,395 tons; 1917, 14,015,588 tons.

In 1916 a government investigation of the coal situation was made under Order in Council No. 2777,² the results of which are contained in a report submitted to the Minister of Labour by W. F. O'Connor.

The objects of the investigation were to discover (1) whether the commodity was being unduly accumulated in the hands of the dealer, thus producing an artificial scarcity and an enhanced price; (2) whether the commodity was being offered for sale and being

¹ *The Production of Coal and Coke in Canada during the Calendar Year 1916*, Ottawa, 1917, p. 1.

² *Labour Gazette*, December, 1916, p. 1848.

sold by dealers at a fair price; and (3) whether any combines, local or other, existed among dealers for the stifling of competition by the fixing of a common price.

We quote the tables of costs for anthracite coal, as published in the report, for Montreal and Winnipeg respectively (Tables V and VI).¹

TABLE V

MONTREAL

	1913	1914	1915	1916
Cost, f.o.b. at mines.....	\$3.29	\$3.32	\$3.32	\$3.53
Freight.....	2.70	2.72	2.72	2.73
Receiving costs, overhead and fixed charges.....	1.50	1.65	1.70	1.95
Total.....	\$7.49	\$7.69	\$7.74	\$8.21
Selling price.....	8.00	8.25	8.25	8.55
Profit.....	\$.51	\$.56	\$.51	\$.34

TABLE VI

WINNIPEG

	1913	1914	1915	1916
Cost, f.o.b. at mines.....	\$3.40	\$3.40	\$3.40	\$3.65
Freight.....	4.40	4.40	4.40	4.40
Reshipping charges and loss through shrinkage and degradation, Port Arthur and Fort William.....	.80	.80	.80	.85
Overhead, fixed, and delivery charges.....	1.30	1.40	1.50	1.65
Total.....	\$9.90	\$10.00	\$10.10	\$10.55
Selling prices.....	10.75	10.75	10.25	11.15
Profit.....	\$.85	\$.75	\$.15	\$.60

The conclusions reached in the report were:

1. There was no evidence of undue accumulation at any time since the beginning of the war. Instead there was a general scarcity during the season of 1916-17, and at some places there prevailed at times almost a famine.

¹ *Labour Gazette*, June, 1917, pp. 479 ff.

2. Generally the prices charged had been fair. High prices had been imposed, but these were necessary on account of the high cost to the dealer.

3. There was no evidence of any general combine, but ample evidence of local combines made up of nearly all the local dealers in practically every city in Canada. The report states, however, that although such combinations were illegal their object had not been to enhance prices, but rather to avoid price-cutting wars and to stabilize prices.

The partial failure of the railroads to meet the situation, according to the report, was probably the main cause of the shortage, and governmental action in this respect is declared to be necessary to insure sufficient transportation.

GOVERNMENT CONTROL

The abnormal conditions in the Canadian coal trade which developed during the winter of 1916-17 finally resulted in government control. By the Order in Council of July 12, 1917, C. A. Magrath was appointed Fuel Controller for Canada with his office at Ottawa. Regulations governing the importation and sale of coal were issued by the Fuel Controller on October 26, 1917.¹ These regulations form the basis of all subsequent government action with respect to the coal industry and trade.

The main features of these regulations are as follows: (1) Every importer, broker, wholesaler, or retailer of coal must procure a permit from the Fuel Controller for authority to do business. The Controller may cancel or suspend any permit in case of short weight or for other sufficient cause, as to which he is sole judge. (2) Maximum mine prices shall be fixed upon agreement between the Fuel Controller and the coal operators. In case any operator fails to make an agreement satisfactory to the Fuel Controller the latter may himself fix the maximum prices and prescribe other terms and conditions governing the disposal of the output of the mine. (3) Brokers' commissions shall not exceed 30 cents per net ton, while wholesale dealers shall be allowed a net margin not exceeding 35 cents per net ton. The retailer's net margin is fixed at 50 cents

¹ *Canada Gazette*, Ottawa, October 31, 1917.

per net ton. Both wholesalers and retailers shall be allowed a reasonable charge for handling, overhead expenses, and fixed charges.

(4) The maximum price at which any size and grade of coal may be sold by a wholesale or a retail dealer during the first half of each month shall be the average delivered cost price to that dealer for the same grade and size of coal on hand on the first day of that month, plus a reasonable proportion of the cost of handling, overhead expense, and fixed charge plus the maximum wholesaler's or retailer's net margin. For the second half of the month the maximum price shall be based upon the average cost of coal on hand on the sixteenth day of the month. (5) Coal sales to consumers, with certain exceptions (railways, munition plants, asylums, hospitals) shall be limited to a two months' supply during the period from September 1 to April 1. (6) In case of emergency the Fuel Controller is authorized to requisition certain quantities of coal. (7) The Fuel Controller shall have access to all records of producers, dealers, and importers, and is to be supplied by them with all information required by him.

Further regulations, issued by the Fuel Controller on March 15, 1918,¹ provide that the government of each of the provinces of Canada may appoint a Provincial Fuel Administrator or Board of Administrators and such central provincial organization as may be deemed necessary. The duties of Fuel Administrators shall be:

- a) To supervise the distribution of all coal and fuel.
- b) To develop the demand for and supply of wood and other coal substitutes to the greatest possible extent.
- c) To promote and administer any organization prescribed by the Fuel Controller.
- d) To gather and compile statistics dealing with the production and consumption of fuel of all kinds within the province.
- e) To promote the greatest development of any coal areas available within the province.
- f) Generally to assist and advise the Fuel Controller.

The regulations further provide that the Council of any municipality may appoint a Local Fuel Commissioner or Board of

¹ *The Canada Gazette*, Ottawa, March 21, 1918.

Commissioners whose duties shall be to co-ordinate the work of fuel dealers in apportioning and delivering coal during any period of fuel scarcity, and to institute when necessary a system of controlling retail coal deliveries.

VIII. LATIN AMERICA

All of the Latin-American countries depend upon overseas countries for their coal supply. Very little coal is produced in South and Central America. There are small coal fields in Chile with a limited annual production which is not sufficient to supply that country's domestic consumption.¹ Coal seams discovered in Bolivia, Colombia, Ecuador, and Brazil have not been exploited as yet on a large scale.

In the past most of the coal imported into South and Central American countries came from Great Britain, and constituted one of the most lucrative elements of that country's foreign trade. Coal of excellent quality, superior shipping facilities, low freight rates, and a powerful and well-organized business organization domiciled in all the leading ports of Latin America have contributed to establish Great Britain firmly as the leading coal supplier of Central and South America.

During the present war British coal exports to South Atlantic ports have been greatly reduced. On the other hand, coal shipments from the United States have increased in tonnage and a promising beginning has been made of what may in course of time develop into a good export market for American coal. Table VII illustrates the exports of coal in tons from the United States to some of the leading Latin-American countries.

The reduced receipts of coal shipments from overseas countries have caused a serious coal shortage to develop throughout Latin-American countries which threatens the carrying on of the industrial activities and seriously discomforts private persons.

In 1914 Argentine's imports of coal were 3,421,517 tons; in 1915 they amounted to 2,543,887 tons, or nearly a million tons less; and in 1916 and 1917 they were reduced still more. In order to

¹ *South American Journal*, December 25, 1915.

relieve the increasing fuel shortage, the government made an inventory of coal stocks and has urged the use of quebracho wood, peat, lignite, and oil for fuel purposes. In view of the fact that the stock of coal in the country is insufficient for national requirements, the government issued a decree putting into force again Law 9482 allowing merchant steamers leaving Argentine ports for oversea destinations to take away only as much coal as is needed to reach their first port of call in South America.¹ Freight rates have also been a very troublesome factor in the coal situation. British coal, when obtainable, costs less in freight than American coal.

TABLE VII

	1913	1916	1917
Argentine.....	70,048	928,905	329,535
Brazil.....	279,933	785,381	687,372
Chile.....		260,468	399,466
Colombia.....		10,165	11,906
Cuba.....	1,275,538	1,333,961	1,385,126
Ecuador.....		22,609	16,025
Guatemala.....		12,950	1,010
Honduras.....		12,768	10,648
Jamaica.....		57,830	71,330
Panama.....	489,761	425,133	620,838
Peru.....		63,510	46,768
Uruguay.....	16,858	153,177	60,410

The coal shortage in Argentine and Brazil has caused the railway companies of those countries to substitute fuel oil, which is imported from Mexico, on their locomotives. In Brazil the government has recently made large loans to railway and coal-mining companies in order to stimulate the development of that country's coal resources.² In order to control the available coal supplies better than heretofore, a government Coal Supply Board was recently created.³ This Board, which has its main office at Rio de Janeiro, is composed of a representative of each of the ministries of Finance, Public Works, and Marine, and is authorized to appoint repre-

¹ *Review of the River Plata*, March 30, 1917.

² *Commerce Reports*, 1918, p. 729.

³ *Diario Oficial*, February 8, 1918.

sentatives in different cities of the country. The Board is charged with the direct purchase in foreign markets of as much coal as is permitted to be exported and of all the national coal which, with due respect to existing contracts, it is possible to obtain. It will also advise the government on the requisitioning of existing stocks of coal, and attend to applications for coal made by the Brazilian navy, public utilities, navigation companies, industrial enterprises, and individuals.

WILLIAM NOTZ

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[*To be continued*]